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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,635	09/18/2003	Mitsuhiro Nakamura	FUJY 20.628	5071

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KATTEN MUCHIN ROSENMAN LLP
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EXAMINER

HOANG, HIEU T

ART UNIT	PAPER NUMBER
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2152

MAIL DATE	DELIVERY MODE
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10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/664,635	Applicant(s) NAKAMURA, MITSUHIRO	
	Examiner Hieu T. Hoang	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/28/2007 and 09/18/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the communication filed on 09/27/2007.
2. Claim 6 has been cancelled.
3. Claims 1-5 and 7-10 are pending and presented for examination.

Response to Amendment

4. The drawing replacement of figure 25 has been accepted. The objection of figure 25 has been withdrawn.

Response to Arguments

5. Applicant's arguments on U.S.C. 102 rejection have been fully considered but they are not persuasive.
6. The first argument is in paragraph 1 on page 5 of the Remarks wherein the applicant argues that the prior art Pan does not teach: "re-allocate each of the paths employed by each of the reserved session". The examiner respectfully traverses. Pan teaches resource (bandwidth) reservation wherein reservation can be made partially and retried at a certain period of time (section 2.4) using a saved flowspec at each routing node (section 2.2, par. 2). Bandwidth at each retry interval is recalculated and reallocated to the retried reservation of each flow (see page 5, "if...else...return", retry can be made for partial bandwidth, "after a flow...while...do...return", reservable resource is recalculated and reallocated to partially reserved flows in the queue)

7. The second argument is in paragraph 1 on page 5 wherein the applicant argues that Pan does not teach bandwidth by reserved session and bandwidth by on-communication sessions. It is respectfully submitted that calculating available bandwidth at a router inherently takes into account bandwidth occupied by on-communication sessions and the reservable bandwidth is the reserved session (section 4, par. 2, passing flowspec messages to routers, routers then make reservation based on the traffics statistics and timing information in the flowspec messages).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-5, 7, 8 and 10 are rejected under 35 U.S.C. 102(a) as being anticipated by Pan et al. (Processing Overhead Studies in Resource Reservation Protocols, hereafter Pan).

10. For claim 1, Pan discloses a resource management method for managing resources in a label switching network, comprising:

- retaining session data (4.1, state management, hash table) about bandwidth ensured by reserved sessions and bandwidth occupied by on-communication

session (section 4, par. 2, fig. 6, sender establishes a reservation by sending flowspec to all receivers, each router along the way attempts to perform a resource reservation upon the reception of the flowspec or based on traffics statistics and timing information provided in the messages, if a resource reservation is successful the resource (bandwidth) is retained for that flow or session); and

- executing periodical re-allocation of each path employed by each of the reserved sessions with respect to the bandwidth ensured by the reserved sessions (section 2.4, lines 5-13, page 5, if...else, if a resource reservation attempt is failed (not available bandwidth to fulfill a reservation request), retry resource reservation at each refresh cycle, “after a flow...while...do...return”, reservable resource is recalculated and reallocated to partially reserved flows in the queue) based on the reserved session data (section 2.2, par. 2, saved flowspec.)

11. For claim 2, Pan further discloses recording a failure count, for a fixed period, of a link causing a failure in a reservation request in a previous period; and fluctuating a weight of the link that tends to cause the failure based on a history of the failure count (page 4, last 3 lines, suspend misbehaving flows, flows that have failed their end-to-end reservation attempt too many times are ignored by routers, leaving resources for other flows, meaning the weight of a flow (priority of the flow) is changed according to its reservation failure counts).

12. For claim 3, Pan further discloses fluctuating a re-allocating period of the path in accordance with the reservation request failure count (page 5, par. 2, page 8, table 1, retry interval is based on number of reservation request failure count).

13. For claim 4, Pan discloses a reservation path optimization system for optimizing a reservation path between specified nodes configuring a network, comprising:

- a reservation setting module for setting the reservation paths and bandwidth for establishing sessions between specified nodes (section 4, par. 2, fig. 6, sender establishes a reservation by sending flowspec to all receivers, each router along the way attempts to perform a resource reservation upon the reception of the flowspec or based on traffics statistics and timing information provided in the messages, if a resource reservation is successful the resource (bandwidth) is retained for that flow or session); and
- a reservation path re-allocating module for periodically re-allocating each of the reservation paths for establishing each of reserved sessions set by said reservation setting module based on the bandwidth for establishing the reserved sessions set by said reservation setting module (section 2.4, lines 5-13, page 5, if...else, if a resource reservation attempt is failed (not available bandwidth to fulfill a reservation request), retry resource reservation at each refresh cycle, "after a flow...while...do...return", reservable resource is recalculated and reallocated to partially reserved flows in the queue).

14. For claim 5, Pan discloses a reservation path optimization system for optimizing a reservation path between specified nodes configuring a label switching network, comprising:

- a reservation setting module for setting reservation paths and bandwidth for establishing sessions between specified nodes (section 4, par. 2, fig. 6, sender establishes a reservation by sending flowspec to all receivers, each router along the way attempts to perform a resource reservation upon the reception of the flowspec or based on traffics statistics and timing information provided in the messages, if a resource reservation is successful the resource (bandwidth) is retained for that flow or session); and
- a reservation path re-allocating module for periodically re-allocating each of the reservation paths for establishing each of reserved sessions set by the reservation setting module based on the bandwidth for establishing the reserved session set by said reservation setting module (section 2.4, lines 5-13, page 5, if...else, if a resource reservation attempt is failed (not available bandwidth to fulfill a reservation request), retry resource reservation at each refresh cycle, “after a flow...while...do...return”, reservable resource is recalculated and reallocated to partially reserved flows in the queue).

15. For claim 7, Pan further discloses the reservation path re-allocating module periodically re-allocates each of the reservation paths based on a specified algorithm (page 5, reallocating based on number of failure retries and renewed bandwidth).

16. For claim 8, Pan further discloses a module for fluctuating the period (section 2.4, par. 3, retry period is not necessarily fixed).

17. For claim 10, Pan discloses a reservation path optimization method for optimizing a reservation path between specified nodes configuring a network, comprising:

- A reservation setting step of setting reservation paths and bandwidth for establishing sessions between specified nodes (section 4, par. 2, fig. 6, sender establishes a reservation by sending flowspec to all receivers, each router along the way attempts to perform a resource reservation upon the reception of the flowspec or based on traffics statistics and timing information provided in the messages, if a resource reservation is successful the resource (bandwidth) is retained for that flow or session); and
- A re-allocating step of periodically re-allocating each of the reservation paths for establishing the reserved sessions set by the reservation setting step based on the bandwidth for establishing the reserved sessions set by the reservation setting step (section 2.4, lines 5-13, page 5, if...else, if a resource reservation attempt is failed (not available bandwidth to fulfill a reservation request), retry resource reservation at each refresh cycle, "after a flow...while...do...return", reservable resource is recalculated and reallocated to partially reserved flows in the queue).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pan as applied to claim 4 above, and further in view of Ashwood-Smith et al. (Generalized MPLS Signaling – RSVP-TE Extensions, hereafter Ashwood-Smith)

20. For claim 9, Pan discloses the invention as in claim 4. Pan does not explicitly disclose the label switching network is an MPLS network, and the reservation paths are Label Switched Paths.

However, Ashwood-Smith discloses the same (abstract, a generalized MPLS signaling scheme with resource reservation extension)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Pan and Ashwood-Smith to employ resource reservation retry method of Pan to a MPLS scheme.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

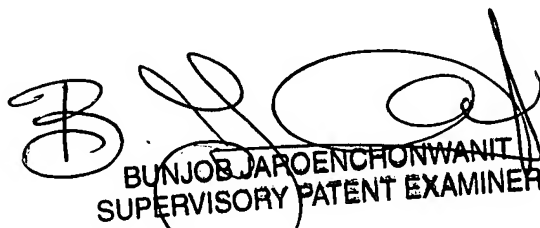
23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH


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SUPERVISORY PATENT EXAMINER 10/12/7